

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P546219

Luminaire Tested: **FMR-12-4-LD4-2LO-35-UNV-82-88-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P546219
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 6/15/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMR-12-4-LD4-2LO-35-UNV-82-88-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

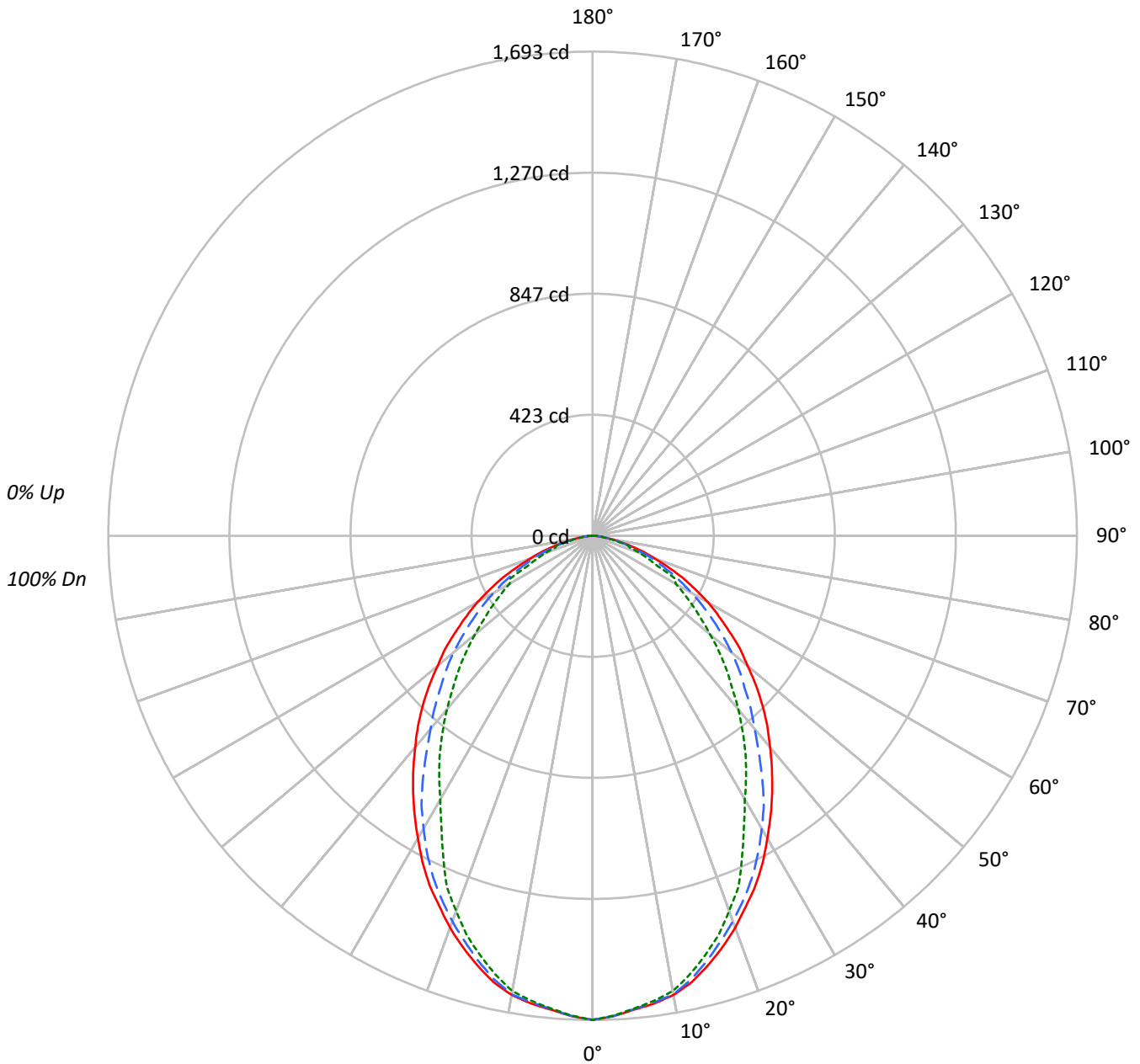
Lumens per Lamp: N/A
Luminaire Lumens: 3323.0 lumens
Efficiency: N/A
Efficacy: 71.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4555	4555	4555
5°	4493	4488	4482
10°	4454	4449	4417
15°	4334	4291	4230
20°	4175	4108	3995
25°	4003	3916	3672
30°	3794	3672	3308
35°	3594	3394	3060
40°	3389	3093	2784
45°	3195	2860	2517
50°	2957	2654	2245
55°	2736	2405	2011
60°	2506	2148	1801
65°	2206	1882	1595
70°	1817	1648	1355
75°	1444	1261	1323
80°	970	910	849
85°	605	726	846



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.6	4.7
10°-20°	432.4	13.0
20°-30°	598.7	18.0
30°-40°	638.4	19.2
40°-50°	582.4	17.5
50°-60°	456.2	13.7
60°-70°	297.4	8.9
70°-80°	131.7	4.0
80°-90°	28.3	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1188.7	35.8
0°-40°	1827.0	55.0
0°-60°	2865.6	86.2
0°-90°	3323.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3323.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1693	1693	1693	1693	1693	
5°	1663	1661	1661	1659	1659	158
15°	1556	1556	1540	1524	1518	437
25°	1348	1340	1319	1272	1237	619
35°	1094	1086	1033	955	932	684
45°	840	822	751	689	661	647
55°	583	566	513	452	429	523
65°	346	327	296	301	250	341
75°	139	129	121	116	127	149
85°	20	22	24	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1692.7	1692.7	1692.7	1692.7	1692.7
2.5°	1681.0	1681.0	1681.0	1679.0	1679.0
5°	1663.3	1661.4	1661.4	1659.4	1659.4
7.5°	1649.6	1647.7	1645.7	1643.8	1639.9
10°	1630.1	1630.1	1628.1	1618.3	1616.4
12.5°	1598.8	1596.8	1589.0	1575.3	1571.4
15°	1555.7	1555.7	1540.1	1524.4	1518.5
17.5°	1508.7	1506.8	1487.2	1471.6	1463.7
20°	1457.9	1454.0	1434.4	1408.9	1395.2
22.5°	1401.1	1401.1	1377.6	1344.4	1330.7
25°	1348.3	1340.5	1318.9	1272.0	1236.7
27.5°	1287.6	1275.9	1252.4	1185.9	1144.8
30°	1221.1	1215.2	1181.9	1095.8	1064.5
32.5°	1158.5	1148.7	1113.5	1023.4	998.0
35°	1093.9	1086.1	1033.2	955.0	931.5
37.5°	1029.3	1019.5	953.0	890.4	861.0
40°	964.7	953.0	880.6	823.8	792.5
42.5°	904.1	888.4	818.0	757.3	722.1
45°	839.5	821.9	751.4	688.8	661.4
47.5°	774.9	759.3	694.7	630.1	598.8
50°	706.4	692.7	634.0	569.4	536.2
52.5°	649.7	628.2	571.4	506.8	479.4
55°	583.1	565.5	512.7	452.0	428.6
57.5°	522.5	504.9	456.0	399.2	379.6
60°	465.7	440.3	399.2	350.3	334.6
62.5°	403.1	383.5	348.3	307.2	326.8
65°	346.4	326.8	295.5	301.4	250.5
67.5°	283.7	274.0	246.6	219.2	211.3
70°	230.9	219.2	209.4	180.0	172.2
72.5°	183.9	172.2	158.5	142.9	137.0
75°	138.9	129.2	121.3	115.5	127.2
77.5°	95.9	92.0	86.1	80.2	78.3
80°	62.6	60.7	58.7	56.7	54.8
82.5°	37.2	37.2	37.2	37.2	37.2
85°	19.6	21.5	23.5	25.4	27.4
87.5°	11.7	11.7	13.7	15.7	17.6
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC





— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)